

AUTHORS: Chernyshev, Ye. A., Dolgava, N. V. 79-28-3-10/61  
Yegorov, Yu. P., Semenov, L. V., Petrov, A. D.

TITLE: The Silicon Alkylation of Aromatic Compounds With  
Dichloro-Alkylsilane-Chlorides  
(Kremnealkilirovaniye aromaticeskikh soyedineniy  
dikhloralkilsilankhloridami)

PERIODICAL: Zhurnal Ohshchey Khimii, 1958, Vol. 28, Nr 3, pp. 613-616  
(USSR)

ABSTRACT: Based on earlier investigations of the same authors, in  
which the silicon alkylation of aromatic compounds was  
carried out with chloroalkyltrichlorosilanes and  
chloroalkyldichlorosilanes in the presence of  $\text{AlCl}_3$ , or  
metallic aluminum, they investigated the same alkylation with  
benzene, toluene and chlorobenzene together with dichloro-  
alkylsilanechlorides. These reactions did not take place as  
simply as the above mentioned, the yields also being small  
(3-48 % compared with 30-80 %); this most probably because  
of the intensive formation of resin. Besides the character  
of the final products of alkylation varied according to the

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The Silicon Alkylation of Aromatic Compounds With Dichloro- 79-28 3-10/61  
Alkylsilane-Chlorides

nature of the two components (table 1). The fact is of interest that with  $\alpha,\alpha'$ - $\beta,\beta'$ - and  $\alpha,\beta$ -dichloroethyltrichlorosilanes chlorobenzene reacts mainly with the two chlorine atoms of the dichloroalkyltrichlorosilane, giving three times higher yields than benzene. Also toluene reacts with greater yields; however, only with one chlorine atom, the other being substituted by a hydrogen atom. It is known that toluene rather easily gives its electrons to a binding with hydrogen. In order to investigate the structure of the obtained compounds their ultraviolet absorption spectra were taken. It was shown that in the silicon alkylation of benzene, toluene and chlorobenzene with dichloroethyltrichlorosilanes one chlorine atom in the dichloroethyl radical is substituted by hydrogen. With benzene and chlorobenzene this reaction does not occur as main reaction, which, however, is entirely the case with toluene. In the silicon alkylation by means of dichloromethylsilanechlorides no reduction reactions are observed. Ultraviolet absorption spectra were taken for a number of synthetized compounds

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Alkylsilane-Chlorides 79-28-3-10/61

after their methylation; this made possible to specify  
their structure more exactly.  
There are 2 figures, 2 tables, and 6 references  
which are Soviet

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR  
(Institute for Organic Chemistry, AS USSR)

SUBMITTED: March 11, 1957

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AUTHORS: Chernyshev, Ye. A., Dolgaya, M. Ye., Yegorov, Yu. P. SOV/79-28-10-42/60

TITLE: Reaction of  $\gamma$ -Chloro-Propyl-Silane Chloride With Aromatic Compounds in the Friedel-Krafts Reaction (Vzaimodeystviye  $\gamma$ -khlorpropilsilankhloridov s aromaticeskimi soyedineniyami po reaktsii Friedlya-Kraftsa)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2829-2837 (USSR)

ABSTRACT: Further to the investigations (Ref 1) into the dependence of the reactivity of chloro alkyl silane chloride on the position of the C-Cl bond with regard to the silicon atom, the authors investigated the reaction of the  $\beta$ - and  $\gamma$ -chloro-propyl-trichloro silanes, as well as of the  $\beta$ - and  $\gamma$ -chloro-propyl-methyl-dichloro silanes, with various aromatic compounds in the presence of  $AlCl_3$  or of Al. Either silane reacted most energetically with benzene, toluene, and chloro benzene. This reaction takes two to three hours at 60-70° (40-60 % derivatives yield). In order to reduce resinification in the case of diphenyl, diphenyl oxide, and naphthalene, aluminum was used as a catalyst, which resulted in lower yields (20-40 %).

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Reaction of  $\gamma$ -Chloro-Propyl-Silane Chloride with Aromatic Compounds in the Friedel-Krafts Reaction

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The  $\gamma$ -chloro-propyl-trichloro- and  $\gamma$ -chloro-propyl-methyl-dichloro-silanes reacted as energetically as the  $\beta$ -isomers, without any decrease in the yields of silicon alkylation products. Although the reactivity of the  $\alpha$ -chloro-alkyl-silane chlorides is much lower than that of the  $\beta$ -isomers, the reactivity of the  $\gamma$ -chloro-alkyl-silane chlorides is not lower than that of the  $\beta$ -chlorides. In the silicon alkylation of benzene with  $\gamma$ -chloro-propyl-trichloro silane, the  $\beta$ - and  $\gamma$ -isomers are thus formed in a ratio of 1:2,9; in the alkylation with  $\gamma$ -chloro-propyl-methyl-dichloro silane, only the  $\gamma$ -isomer is formed. All the other reactions of the above-mentioned silanes were carried out under analogous conditions (Table 1). The resulting compounds were methylated (Table 2). There are 2 tables and 4 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR  
(Institute of Organic Chemistry at the Academy of Sciences, USSR)

SUBMITTED: August 15, 1957  
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DOLGAYA, M. Ye.

M. Ye. Dolgaya, Ye. A. Chernyshov and Li Kuang-liang, "Synthesis of aromatic silicon-organic Monomers."

Report presented at The Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.

Zhurnal prikladnoy khimii, 1959, Nr 1, pp 23F-240 (USSR)

DOLGAYA, M. Ye., Cand of Chem Sci (diss) "Synthesis of Lipid-Aromatic and Alicyclic Silico-organic Compounds," Mos, 1959, 11 pp (Institute of Organic Chemistry im N. D. Zelinskiy) (KL, 1-60, 119)

5 (3)

## AUTHORS:

Chernyshev, Ye. A., Dolgaya, M. Ye. SOV/79-29.6-15/72

## TITLE:

The Reactivity of  $\alpha$ - $\beta$ - and  $\gamma$ -Chloroalkyl-silane-chlorides in Friedel-Crafts' Reaction (Reaktsionnaya sposobnost'  $\alpha$ - $\beta$ - i  $\gamma$ -khloralkilsilanokloridov v reaktsii Fridelya-Kraftsa)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1850 - 1853 (USSR)

## ABSTRACT:

In the Friedel-Crafts reaction with different  $\alpha$ - $\beta$ - and  $\gamma$ -chloro-alkyl-silane-chlorides the authors showed the qualitatively different reactivity of these chlorides (Ref 1). It was found that the chlorides with  $\beta$ - and  $\gamma$ -positions of the chlorine atom have a considerably larger reactivity with respect to the silicon atom, than the  $\alpha$ -chlorides; the substitution of an alkyl radical for the chlorine atom on the silicon atom in the chloro-alkyl-trichloro-silanes always increases the reactivity of the chloride (i.e.  $\text{CH}_3\text{SiCl}_2\text{CH}_2\text{Cl}$  is more active than  $\text{Cl}_3\text{SiCH}_2\text{Cl}$ ). In the present paper the quantitative comparison of the reactivity of the chlorides under review in the Friedel-Crafts reaction is described. The reaction rate of each chloride was determined by means of the evolution rate of the hydrogen

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The Reactivity of  $\alpha$ - $\beta$ - and  $\gamma$ -Chloroalkyl silane-chlorides in Friedel-Crafts Reaction

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chloride according to Lebedev (Ref 2). This experiment is dealt with in detail in the present paper. The negative induction effect (-I) of the groups  $\text{Cl}_3\text{Si}$  and  $\text{RCl}_2\text{Si}$  is shown to exert a considerable influence upon the reactivity of the bond C-Cl, in which connection the conjugation effect of the S-C and C-Cl bonds is added to the action of the induction effect in the case of the  $\beta$ -chlorides. The magnitude of the conjugation effect of the Si-C-bond with the C-Cl bond in the  $\beta$ -chlorides depends on the nature of the radicals or atoms linked with the silicon and decreases considerably on substitution of the chlorine atoms for the alkyl radicals. The results of the experiments are given in the tables. There are 2 tables and 2 Soviet references.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: May 27, 1958

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SOV/79-30-2-6/78

AUTHORS: Petrov, A. D., Chernyshev, Ye. A., Dolgaya, M. Ye.,  
Yegorov, Yu. P., Leytes, L. A.

TITLE: Addition of Silanes to Alkenylbenzenes in the Presence  
of Chloroplatinic Acid

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 376-  
383 (USSR)

ABSTRACT: The authors effected addition of trichlorosilane and  
alkyldichlorosilanes to styrene, allylbenzene, and  $\gamma$ -  
butenylbenzene by using chloroplatinic acid as a  
catalyst (1 ml of 0.1 M solution in isopropyl alcohol  
per 1.2 mole each of silane and alkenylbenzene). The  
reaction was performed at 30-40°, in a four-neck round-  
bottom flask, provided with a stirrer, reflux condenser,  
thermometer, and a dropping funnel (for slow and con-  
tinuous addition of the alkenylbenzene). While addi-  
tion of trichlorosilane results in only one product,  
the methyl- and ethyldichlorosilanes produce two isomers  
each:

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Addition of Silanes to Alkenylbenzenes in  
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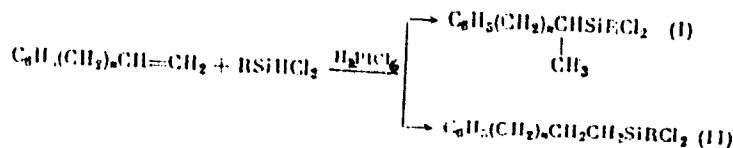
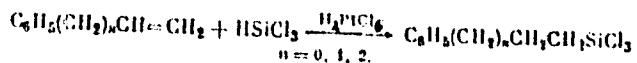


Table A lists the synthesized compounds and their properties. The reaction of obtained compounds with  $\text{MgCH}_3\text{Br}$  and  $\text{MgCH}_3\text{CH}_2\text{Br}$  led to formation of trialkyl-phenylalkylsilanes:  $\delta$ -phenylbutyltrimethylsilane (bp  $91\text{-}92^\circ$  (3 mm),  $n_D^{20} 1.4828$ ,  $d_4^{20} 0.8656$ );  $\gamma$ -phenyl-propyltrimethylsilane (bp  $56^\circ$  (2 mm),  $n_D^{20} 1.4853$ ,  $d_4^{20} 0.8684$ );  $\gamma$ -phenylpropyltriethylsilane (bp  $165^\circ$  (20 mm),  $n_D^{20} 1.4949$ ,  $d_4^{20} 0.8939$ );  $\delta$ -

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Table A.

1	2	3	4	5	$n_{D}^{20}$	$d_{4}^{20}$	MP <sub>g</sub>	6 (1)				8	7 (2)			
								6	7	C	H		C	H	R	A
HSiCl <sub>3</sub>	CH <sub>2</sub> SiH=CH <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH <sub>2</sub> SiCl <sub>3</sub>	61.8	7.9(25)	1.5184	1.236	40.59	50.05	-	-	-	-	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
HSiCl <sub>3</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH=CH <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH <sub>2</sub> SiCl <sub>3</sub>	42.4	11.0(10)	1.5140	1.2239	42.32	62.67	12.55	4.11	11.11	11.66	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	42.62	4.31	11.05 11.97
HSiCl <sub>3</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH=CH-CH <sub>3</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> SiCl <sub>3</sub>	24.3	117.06	1.5111	1.1957	67.01	67.31	-	-	11.37	11.28	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
		CH <sub>2</sub> SiH <sub>2</sub> SiCl <sub>3</sub>	12.9	61.12	1.5103	1.1367	58.14	58.41	-	-	-	-	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
CH <sub>3</sub> SiHCl <sub>2</sub>	CH <sub>2</sub> SiH=CH <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> SiCl <sub>3</sub>	50.0	68.12	1.5120	1.1311	58.10	58.11	-	-	-	-	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
CH <sub>3</sub> SiHCl <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH=CH <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> SiCl <sub>3</sub> CH <sub>3</sub>	7.5	101.5(9)	1.5152	1.1105	62.75	63.01	-	C	-	-	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
CH <sub>3</sub> SiHCl <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> CH=CH <sub>2</sub>	CH <sub>2</sub> SiH <sub>2</sub> SiCl <sub>3</sub> CH <sub>3</sub>	50	118.5(9)	1.5102	1.1087	62.83	63.01	-	-	-	-	C <sub>6</sub> H <sub>12</sub> SiCl <sub>3</sub>	-	-	-
		CH <sub>2</sub> SiH <sub>2</sub> SiCl <sub>3</sub> CH <sub>3</sub>														

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Table A. (Cont'd.)

<chem>CN(C)C</chem>	<chem>CC(C)C(C)C(C)C</chem>	<chem>C6H5CH2CH2CH2Si(CH3)2</chem>	9.7	111.5 161	13124	1.0070	67.81	67.47	51.51 51.38	8.45 8.38	11.14 11.31	28.65 28.50	<chem>C11H16SiCl3</chem>	53.46	6.47	11.31 20.71
		<chem>C6H5CH2CH2CH2SiCl4CH3</chem>	61.0	129-130 (116)	1.5067	1.0025	67.25	67.47	51.39 51.63	6.17 6.36	11.20 11.36	28.43 28.59	<chem>C11H16SiCl3</chem>	51.66	6.17	11.34 20.71
<chem>CN(C)C</chem>	<chem>CC(C)C(C)C(C)C</chem>	<chem>C6H5CH2CH2CH2SiCl2C6H5</chem>	10.3	98.97 10	1.5180	1.1218	62.73	63.01	51.55 51.71	6.04 6.07	12.35 12.12	30.27 30.17	<chem>C11H16SiCl3</chem>	51.52	6.01	12.02 30.44
		<chem>C6H5CH2CH2SiCl2C6H5</chem>	40.3	106 (4)	1.5018	1.1149	62.45	63.01	52.11 52.30	6.18 6.15	11.27 11.17	29.65 29.53	<chem>C11H16SiCl3</chem>	51.52	6.01	12.02 30.44
<chem>CN(C)C</chem>	<chem>CC(C)C(C)C(C)C</chem>	<chem>C6H5CH2CH2SiCl2C6H5</chem>	8.0	103 (5)	1.5100	1.1060	62.43	67.67	51.62 51.60	6.04 6.35	11.81 11.55	28.83 28.59	<chem>C11H16SiCl3</chem>	51.66	6.47	11.34 20.71
		<chem>C6H5CH2CH2CH2SiCl4C6H5</chem>	57.0	111 (5)	1.5103	1.0001	67.21	67.47	--	--	--	--	<chem>C11H16SiCl3</chem>	--	--	--
<chem>CN(C)C</chem>	<chem>CC(C)C(C)C(C)C</chem>	<chem>C6H5CH2CH2CH2SiCl2C6H5</chem>	9.2	126 (7)	1.5135	1.0081	72.16	72.30	55.51 55.33	6.78 6.89	10.41 10.41	28.08 27.16	<chem>C11H16SiCl3</chem>	51.19	6.49	10.73 20.79
		<chem>C6H5CH2CH2CH2SiCl4C6H5</chem>	61.0	157.5 (6)	1.5018	1.0037	70.79	72.30	55.27 55.32	6.99 6.93	10.47 10.59	27.45 27.31	<chem>C11H16SiCl3</chem>	55.19	6.85	10.71 20.79

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Addition of Silanes to Alkenylbenzenes in  
the Presence of Chloroplatinic Acid

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Key to Table A: (1) chlorosilane; (2) aromatic compound;  
(3) synthesized compound; (4) yield based on chloro-  
silane (in %); (5) boiling point (pressure in mm); (6)  
found; (7) calculated; (8) empirical formula; (9)  $\beta$ -  
phenylethyltrichlorosilane; (10)  $\gamma$ -phenylpropyltri-  
chlorosilane; (11)  $\delta$ -phenylbutyltrichlorosilane; (12)  
 $\alpha, \alpha$ -phenylmethylmethyldichlorosilane; (13)  $\beta$ -  
phenylethylmethyldichlorosilane; (14)  $\alpha, \alpha$ -methyl-  
benzylmethyldichlorosilane; (15)  $\gamma$ -phenylpropylmethyl-  
dichlorosilane; (16)  $\alpha, \alpha$ -Methyl- $\beta$ -phenylethylmethyldi-  
chlorosilane; (17)  $\delta$ -phenylbutylmethyldichlorosilane; (18)  $\beta$ -  
phenylethylethyldichlorosilane; (19)  $\beta$ -  
phenylethylethyldichlorosilane; (20)  $\alpha, \alpha$ -methylben-  
zylyldichlorosilane; (21)  $\gamma$ -phenylpropylethyl-  
dichlorosilane; (22)  $\alpha, \alpha$ -methyl- $\beta$ -phenylethyl-  
dichlorosilane; (23)  $\delta$ -phenylbutylethyldichlorosilane.

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Additon of Silanes to Alkenylbenzenes in  
the Presence of Chloroplatinic Acid

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phenylbutyltriethylsilane (bp 106° (2 mm),  $n_D^{20}$  1.4922,  $d_4^{20}$  0.8862). Raman spectra of all the listed compounds (and 4 other derivatives) were taken. The spectra of alkenylbenzenes with straight ( $\geq S_i(CH_2)_nC_6H_5$ ,  $n = 1, 2, 3, 4$ ) and branched ( $\geq SiCH(CH_3)(CH_2)_nC_6H_5$ ,  $n = 0, 1, 2$ ) chains show a marked difference which can help differentiate between the two types. The compounds containing straight chain alkyl groups have two lines ( $\sim 1,185$  and  $\sim 1,207 \text{ cm}^{-1}$ ) in the region 1,180-1,210  $\text{cm}^{-1}$ , whose frequency and intensity do not depend upon the length of the chain. The compounds of the second type show only one line in this region, whose frequency and intensity depend upon the value of  $n$ . Increase in  $n$  lowers the frequency and raises the intensity of the line. There are 1 table; and 7 references, 2 Soviet, 1 Japanese, 4 U.S. The U.S. references are: C. A. Burkhardt, R. H. Krieble, J. Am. Chem. Soc., 69, 2687 (1947); Ch. A., 49, 14377 (1955); G. H. Wagner,

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Addition of Silanes to Alkenylbenzenes in  
the Presence of Chloroplatinic Acid

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D. L. Bailey, A. N. Pines, et al., Ind. Eng. Ch., 45,  
367 (1953); J. H. Speier, J. A. Webster, G. Barnes,  
J. Am. Chem. Soc., 79, 974 (1957).

ASSOCIATION: Institute of Organic Chemistry of the Academy of Sciences,  
USSR (Institut organicheskoy khimii Akademii nauk SSSR)

SUBMITTED: March 2, 1959

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53700

S/062/60/000/008/008/012  
B004/B054

AUTHORS: Chernyshov, Ye. A., Dolgaya, M. Ye., and Petrov, A. D.

TITLE: Nitration of Aromatic Silicon Hydrocarbons With Different Position of the Aromatic Ring With Respect to the Silicon Atom

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1424-1428

TEXT: In the introduction, the authors discuss the papers hitherto published on the nitration of phenyl silanes (Refs. 1-10), and mention a paper by B. N. Dolgov and O. K. Panina (Ref. 2). The authors attempted the nitration of the silicon hydrocarbons mixed with benzene  $(CH_3)_3Si(CH_2)_nC_6H_5$  (n = 1, 2, 3, 4) by means of "rival" reactions, and the determination of the relative activity of the o-, m-, and p-positions. The nitration was carried out by means of fuming nitric acid in acetic anhydride at 0°C. A formation of nitro-toluene, ethyl-nitro benzene, propyl-nitro benzene, or butyl-nitro benzene was not observed. Thus, the Si-C bond is not separated. Table 1 gives the yields in ortho- and para-nitro derivatives (meta-derivatives did not form). The high yield in ortho-derivatives in the case of tri-

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Nitration of Aromatic Silicon Hydrocarbons With S/062/60/000/008/008/012  
Different Position of the Aromatic Ring With B004/B054  
Respect to the Silicon Atom

methyl-benzyl silane is explained by the fact that the silicon hydrocarbon molecule forms a complex with the nitronium ion, in which Si is bound to the oxygen of the nitronium ion, which facilitates the attack on the ortho-position. According to C. K. Ingold (Ref. 11), the relative activity of the aromatic rings was determined in the series of compounds  $(CH_3)_3Si(CH_2)_{n-5}E_5$ , while the activity of benzene was taken as unity. Table 2 shows that the compound  $(CH_3)_3SiCH_2C_6H_5$  ( $n = 1$ ), in which the benzene ring is in  $\beta$ -position to the silicon atom, has an extremely high activity, which cannot be explained either by steric factors or by the inductive effect of the substituent. A conjunction of the Si-C bond with the aromatic ring is assumed to be similar to the conjunctive effect of the Si-C bond with -C- or C-Cl. Structural formulas show the relative activities of the ortho-, meta-, and para-positions of the silicon hydrocarbons investigated and of some other benzene compounds (on the basis of Refs. 3, 16). There are 2 tables and 16 references: 5 Soviet, 5 US, 5 British, and 1 Czechoslovakian.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo of the Academy of Sciences, USSR)

SUBMITTED: March 13, 1959  
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27498  
8/062/61/000/C09/014/014  
B117/B101

S3700

AUTHORS: Chernyshev, Ye. A., Dolgaya, M. Ye., and Petrov, A. D.

TITLE: Synthesis and properties of aryl-fluoro silicon hydrides

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 9, 1961, 1718

TEXT: This "Letter to the Editor" describes a new simple method for the preparation of a type of silicon hydrides. Aryl-fluoro silicon hydrides are obtained by treating the corresponding aryl-chloro silicon hydrides with concentrated hydrofluoric acid at -30°-50°C:

$R_nCl_{3-n}SiH + (3-n)HF \rightarrow R_nF_{3-n}SiH + (3-n)HCl$ . The time of contact of the reactants is 20-30 min. Products having only one chlorine atom substituted by fluorine may be obtained by shortening the time of contact. The yields of aryl-fluoro silicon hydrides are 70-90%. Under the influence of water, alcohols, and acids, without a catalyst, aryl-fluoro silicon hydrides split off hydrogen, even at room temperature, and form silanol, alkoxy and acyloxy silane derivatives, respectively. Formation of hydrogen at the

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S/062/61/000/009/014/014  
B117/B101

Synthesis and properties of ...

interface was also observed on adding potassium fluoride, calcium chloride, or metallic potassium or sodium to an aryl-fluoro silicon hydride. It was found that aryl-fluoro silicon hydrides initiate the polymerization of several unsaturated compounds. Addition of a few milliliters of phenyl-difluoro silane or diphenyl-fluoro silane to styrene or acrylonitrile causes rapid polymerization at 70-80°C. In the presence of 1-2% by weight of 0.1 M H<sub>2</sub>PtCl<sub>6</sub> solution, aryl-fluoro silicon hydrides react much more readily with unsaturated compounds than the analogous aryl-chloro silicon hydrides. [Abstracter's note: Complete translation.]

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo of the Academy of Sciences USSR)

SUBMITTED: July 19, 1961

Card 2/2

PETROV, A.D.; PLATE, A.F.; CHERNYSHEV, Ye.A.; DOLGAYA, M. Ye.; BELIKOVA, N.A.; KRASNOVA, T.L.; LEYTES, L.A.; PRYANISHNIKOVA, M.A.; TAYTS, G.S.; KOZYRKIN, B.I.

Preparation of organosilicon derivatives of bicyclo [2.2.1] heptane. Zhur. ob. khim. 31 no.4:1199-1208 Ap '61.

(MIRA 14:4)

1. Institut organicheskoy khimii Akademii nauk SSSR.  
(Bicycloheptane) (Silicon organic compounds)

5.2400

3/030/62/055/004/014/020  
D247/D501

AUTHORS: Chernyshev, Ye. A., Dolgaya, N. Ye. and Li Kun-Liang

TITLE: The effect of the material of the reaction vessel on the reaction between hydrogen silanes and chlorobenzene in the gaseous phase

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 360-363

TEXT: Experiments were run with trichlorosilane and methylchlorosilane with chlorobenzene in stainless steel, Armco-iron and ceramics at a temperature of 580°C and a reaction time of 30 seconds. The products were collected after cooling and were analyzed. The yields and the ratios of the products resulting from a condensation mechanism to those resulting from reduction were recorded. Similar yields and ratios for apparatus made from quartz and copper were given. It was suggested that sorption of the aryl halide on to iron or nickel surfaces was the factor favoring the reduction process. There are 1 figure and 8 Soviet-bloc references.

SUBMITTED: June 30, 1961  
Card 1/1

X

CHERITCHEVA, YE.A., DOLGAYA, M.YE.

A simple method for the synthesis of aryl-fluor-hydrides.

Report submitted for the 11th Conference on high molecular weight compounds  
devoted to monomers, Baku, 3-7 April 62

L22663-65 EPF(c)/EPF/EMP(j)/EWI(m)/EMP(d)/T/EMP(t) pc-4/pr-4/po-4 TIP(c)/  
RPL RD/SM/JD/HLK

ACCESSION NR: AT5002120

S/0000/64/000/000/0123/0129

AUTHOR: Chernyshev, Ye. A.; Dolgaya, M. Ye.

TITLE: Method of preparing arylfluorosilicon hydrides and their reactions

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov  
(The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 123-129

TOPIC TAGS: arylfluorosilicon hydride, silicon hydride, styrene addition, phenylchlorosilane

ABSTRACT: A method has been developed for preparing arylfluorosilicon hydrides by reacting arylsilicon hydrides with aqueous hydrofluoric acid at temperatures of -40 to -60°C. In addition reactions with unsaturated compounds in the presence of H<sub>2</sub>PtCl<sub>6</sub>, arylfluorosilicon hydrides are much more reactive than their chlorine-containing analogs. The arylfluorosilyl group of the arylfluorosilicon hydrides adds to both atoms of the double bond of styrene with the formation of predominantly 1,1-isomer, whereas the phenylchlorosilyl group of phenyldichlorosilane adds purely to the terminal carbon atom of the double bond. At temperatures of 0 to 30°C, the arylfluorosilicon hydrides react quantitatively with water, alcohols, acids, and primary and secondary amines, with the replacement of hydrogen by

Card 1/2

L 22666-63

ACCESSION NR: AT6003120

hydroxyl; alkoxy-, acyloxy- or amino groups, respectively. Orig. art. has: 9 tables  
and 9 formulas.

ASSOCIATION: None

SUBMITTED: 30Jul64

NO REF SOV: 007

ENCL: 00

SUB CODE: CK, GC

OTHER: 007

Card 2/2

CHERNYSHEV, Ye.A.; DOLGAYA, M.Ye.; LUBUZH, Ye.D.

Addition of arylfluorosilicon hydrides to styrene. Izv. AN SSSR,  
Ser. khim. no.4:650-654 '65. (MIRA 18,5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

KULAYEVA, O.N.; CHERNYSHEV, Ye.A.; KAYUTENKO, L.A.; DOLGAYA, M.Ye.;  
VOROB'YEVA, I.P.; POPOVA, E.A.; KLYACHKO, N.L.

Synthesis and test of the physiological activity of some compounds  
of the kinin series. Fiziol. rast. 12 no.5:902-908 S-0 '65.

(MIRA 19:1)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva  
i Institut organiceskoy khimii imeni Zelinskogo AN SSSR, Moskva.

DOLGAYA, O.M.

Anomaly in the temperature dependence of the conductivity of aqueous electrolyte solutions. Ukr. khim. zhur. 24 no.4: 427-429 '58. (MIRA 11:10)

1. Chernovitskiy gosudarstvennyy universitet, laboratoriya fizi-  
cheskoy khimii.  
(Solution (Chemistry)--Electric properties)

DOLGAYA, O. M.

Cand Chem Sci - (diss) "Characteristic Mendeleyev temperature in several electrochemical processes." Odessa, 1961. 20 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Odessa State Univ imeni I. I. Mechnikov); 200 copies; price not given; (KL, 7-51 sup, 221)

PAMFILOV, A.V.; DOLGAYA, O.M.

Conformational transformations of polymethacrylic acid.  
Vysokomol. soed. 4 no.4:617 Ap '62. (MIRA 15:5)  
(Methacrylic acid) (Macromolecular compounds)

PAMFILOV, A.V.; DOLGAYA, O.M.

Surface diffusion in the electrodeposition of cadmium. Zhur.  
fiz. khim. 36 no.6:1313-1315 Je'62 (MFA 17:7)

1. Chernovitskiy universitet.

PAMFILOV, A.V. (Chernovtay); DOLGAYA, O.M. (Chernovtay)

Temperature dependence of the electric conductivity of aqueous  
solutions of electrolytes and its relation to the structure of  
water. Zhur.fiz.khim. 37 no.8:1800-1804 Ag '63. (MIRA 16:9)

1. Chernovitskiy gosudarstvennyj universitet.  
(Electrolyte solutions) (Water)

ACC NR: AP7002864

(N)

SOURCE CODE: UR/0149/66/000/006/0127/0129

AUTHORS: Gorelik, S. S.; Spektor, E. N.; Dolgaya, Zh. A.

ORG: Moscow Institute for Steel and Alloys, Department of X-ray Crystallography and Metal Physics (Moskovskiy institut stali i splavov. Kafedra rentgenografii i fiziki metallov)

TITLE: Influence of heating up to the recrystallization temperature on the change of elastic properties and structure of cold-rolled titanium and zirconium

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1966, 127-129

TOPIC TAGS: titanium, zirconium, metallurgic research, metal rolling

ABSTRACT: The effect of heating cold-rolled technical grade titanium and zirconium up to the recrystallization temperature on the elastic properties and structure of these metals was studied. The study supplements the results of E. N. Spektor, S. S. Gorelik, A. G. Rakhshadt, and M. B. Novikov (Fizika metallov i metallovedeniye, t. 19, v. 3, 424, 1965). The experimental technique followed is described by E. N. Spektor, S. S. Gorelik, and A. G. Rakhshadt (Izv. VUZ, Chernaya metallurgiya 7, 141, 1965). The experimental results are shown graphically (see Fig. 1). It was determined that the structural changes which result during heating of deformed metals are caused by a thermally activated redistribution of lattice dislocations.

Card 1/2

UDC: 539.32.669.017.15

ACC NR: AP7002864

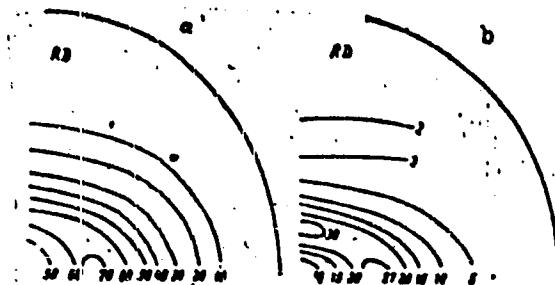


Fig. 1. Polar figures (002) for mircroium (a) and for titanium (b) after cold rolling with 60% compression deformation.  $0 \leq \alpha \leq 75^\circ$  for Cu radiation.

Orig. art. has: 2 graphs.

SUB CODE: 11/ SUBM DATE: 29Sep65/ ORIG REF: 009/ OTH REF: 002

Cord 2/2

DOLG, N.V.

Dynamics of tuberculosis morbidity and mortality in cities of the Russian Federation. Sov. zdrav. 17 no.4:45-49 Ap'58 (MIRA 11:5)

1. Iz kafeiry organizatsii zdravookhraneniya (zav. - prof. N.A. Vinogradov) TSentral'nogo instituta usovershenstvovaniya vrachey in Nauchno-metodicheskogo byuro sanitarnoy statistiki (dir. L.A. Brushlinskaya) Ministerstva zdravookhraneniya RSFSR.

(TUBERCULOSIS, statist.  
morbidity & mortal. in Russia (Rus))

DOLGIKH, A.

Advices prompted by experience. Sots.trud 8 no.3:109-113 Mr '63.  
(MIA 16:3)

1. Starshiy inzhener otdela organizatsii truda Orsko-Khalilovskogo  
metallurgicheskogo kombinata.  
(Orsk—Wages—Iron and steel workers)

BEZNOS, T.I.; RAFALOVICH, S.M.; BOGUSLAVSKAYA, A.V.; DOLGIKH, A.I.;  
KALMYKOVA, M.V. (Khar'kov)

Role of fungi in complications from treatment with antibiotics.  
Vrach. delo no.8:76-78 Ag '60. (MIRA 13:9)

1. Ukrainskiy nauchno-issledovatel'skiy kozhno-venerologicheskiy  
institut, Detskaya bol'nitsa Yuzhnay zheleznoy dorogi i Chotvertyy  
kozhno-venerologicheskiy dispanser.

(FUNGI, PATHOGENIC) (ANTIBIOTICS)

ACCESSION NR: AP4010042

S/0062/64/000/001/0127/0132

AUTHOR: Dolgikh, A. N.; Bogdanova, A. V.; Plotnikova, G. I.;  
Ushakova, T. M.; Shostakovskiy, M. F.

TITLE: Investigation of diacetylene derivatives  
Report 10. Interaction between ethinylvinylthioethers and water

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 127-132

TOPIC TAGS: diacetylene derivatives, ethinylvinylthioethers,  
ethinylvinylalkyloxo, thio or nitroethers, triple bond reactivity,  
cix-configuration, keto-enol resonance, enol stabilization, thio-  
vinyl group, thioketo group, mercaptan addition products

ABSTRACT: Since the compounds  $\text{CH}\equiv\text{C}-\text{CH}=\text{CH}-\text{OR}$  do not react with water in a neutral medium even under heating, hydration of the triple bond proceeded under the influence of  $\text{HgSO}_4$  and heat to form the corresponding 2-acetylvinyllalkylsulfides and their tautomeric 3-oxybutadiene-1,3-yl-acetylvinylalkylsulfides, a new series of diacetylene

Card 1/2

ACCESSION NR: AP4010042

derivatives. The possibility of keto-enol tautomerism of the derivatives and conditions for stabilization of the enol form - cis-configuration and bond formation between the H of the OH-group and S, resulting in a six-membered ring - are discussed. The IR spectra confirmed presence of the cis-configuration. Acid hydration (10%  $H_2SO_4$ ) yielded mainly 2-acetylvinylalkylsulfide. In the interaction with water, in compounds of the type  $CH\equiv C-CH=CH-XR$  where X = S, O, N, the sulfur atom, like O or N, increased the reactivity of the triple bond, compared to that in vinylacetylene. This influence appeared in the order N > O > S. The syntheses are described, as are yields and end products. Orig. art. has: 8 formulas.

ASSOCIATION: none

SUBMITTED: 22Aug63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 011

OTHER: 005

Card 2/2

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; DOLGIXH, A.H.

Method of synthesizing mercaptides and tritiated esters of orthoformic acid. Izv. AN SSSR Otd. khim. nauk no.10:1901 O 450. (MIRA 13:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR.

(Orthoformic acid)

DOLGIKH, A.N.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; USHAKOVA, T.M.; SHOSTAKOVSKIY, M.F.

Derivatives of diacetylene. Report No.10: Interaction of ethinyl vinyl thioethers with water. Izv.AN SSSR. Ser.khim. no.1:127-132 Ja '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

DOLGIKH, A.N.; BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.

Interaction of vinyl and thievinyl ethers with trithioethyl or-  
thoformate. Izv.AN SSSR.Ser.khim. no.2:340-344 F '64. (MIRA 17:3)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

BOGDANOVA, A.V.; DOLGIKH, A.N.; SHOSTAKOVSKIY, M.F.

Synthesis of primary, secondary, and tertiary alkoxy alcohols of  
the enyne series. Izv. AN SSSR Ser. khim. no.2:359-362 '65.  
(MIRA 18:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

BOGDANOVA, A.V.; DOLGIKH, A.N.; SHOSTAKOVSKIY, M.F.

Synthesis of primary, secondary, and tertiary alkylthioenyne  
alcohols. Izv. AN SSSR Ser. khim. no.2:363-365 '65.

(MIRA 18:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

L 37670-65 INT(n)/EPF(r)/WP(s)/T

M-4/Pr-4

EN S/0062/65/000/002/0359/0362

ACCESSION NR: AP5008112

23

AUTHOR: Engdanova, A. V.; Dalgikh,

A. N.

Shostakovsky, M. F.

0

TITLE: Synthesis of primary, secondary, and tertiary alkoxy alcohols of the "eyne" series

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1965, 359-362

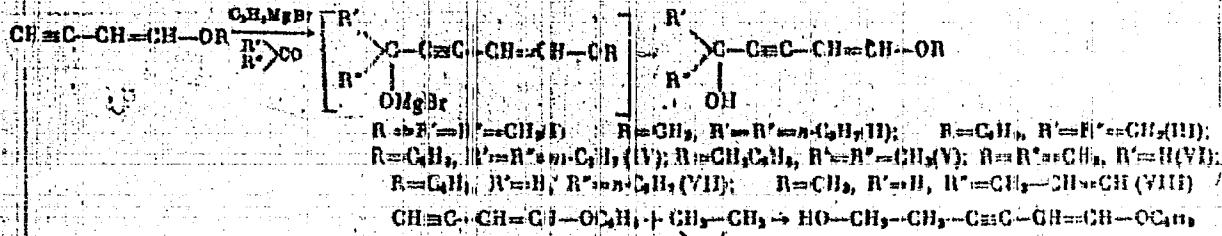
TOPIC TAGS: alkoxy alcohol synthesis, primary alkoxy alcohol, secondary alkoxy alcohol, tertiary alkoxy alcohol, olefinic acetylenic alcohol, conjugated unsaturated alcohol, ethynylvinyl ether, Grignard reaction, olefinic alkoxyketol

ABSTRACT: Conjugated acetylenic-olefins primary, secondary and tertiary alkoxy-alcohols which may be used for the production of herbicides or growth accelerators were prepared by the reaction of ethynylvinylmethyl, ethynylvinylbutyl or ethynylvinylbenzyl ether with acetone, di-n-propyl ketone, acetaldehyde, n-butyraldehyde, crotonaldehyde or ethylene oxide. The alkoxy alcohols were obtained via the MgBr derivatives of ethynylvinyl ethers prepared by their reaction with  $C_2H_5MgBr$ ; the physical properties and infrared spectra of the reaction products were determined and the secondary alcohols were identified by preparing acetals with vinyl ethyl ether<sup>1</sup>. The hydration of the alcohols gave olefinic alkoxyketols. Yields of 16.3-33% of the theoretical were produced. By the

Card 1/2

L 37670-65  
ACCESSION NR: AP5008112

reaction, which proceeded by the general formula



Orig. art. has: 1 table and 15 formulas.

(IX)

**ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo, Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)**

SUBMITTED: 12Jun64

INCL: 00

SUB CODE: OC

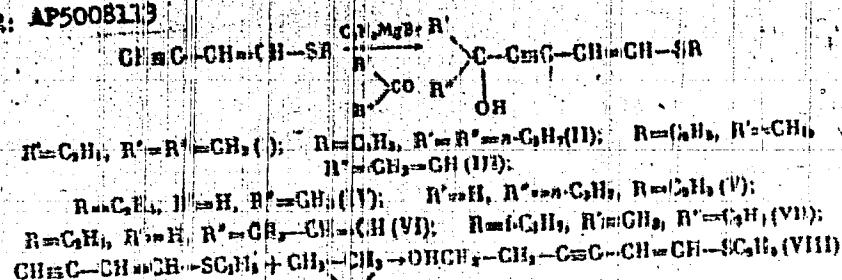
2/2

卷之三

L 37669-65	EWT(m)/EZF(s)/EP(4)/P	Po /Pr-4	RM	
ACCESSION NR: AP5008113			IS/0062/65/000/002/0361/0365	21
AUTHOR: Bogdanova, A. V.; Dolgikh, A. N.; Shostakovskiy, M. F.				6
TITLE: Synthesis of primary, secondary and tertiary alkylthio- enyne alcohols				1
SOURCE: AN SSSR. Izvestiya. Seriya Khimicheskaya, no. 2, 1968, 343-355				
TOPIC TAGS: alkylthioalcohol, olefinic acetylenic alcohol, conjugated unsaturated alcohol, primary alcohol synthesis, secondary alcohol synthesis, tertiary alcohol synthesis, ethynylvinylthioalcohol, Grignard reaction				
ASTRACT: Conjugated olefinic acetylenic primary, secondary and tertiary thioether alcohols were prepared by the reaction of ethynylvinylthioethyl and ethynylvinylthiisopropyl alcohol with acetone, di-n-propyl ketone, methylvinyl ketone, acetaldehyde, n-butyradehyde, crotonaldehyde or ethylene oxide. The thioether alcohols were obtained via the organomagnesium compounds generated in the presence of $C_2H_5MgBr$ and the products were identified by elemental analysis and infrared spectroscopy. Physical properties were measured and tabulated. Yields of 18.5-71% of the theoretical were produced, the reaction proceeding by the general formula				
Card 1/2				

1-37669-85

ACCESSION NR: AP5008113



Orig. art. has: 1 table and 1 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk  
SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 12Jun81

ENCL: 00

SUB CODE: OC

NO REF Sov: 010

OTHER: 000

Cod 2/2 fs

DOLGIKH, A.N., inshenei".

Concretes based on local vibration ground binding materials.

Nov.tekh.i pered.op.v stroi, 18 no.8123-28 Ag. '56.

(MIRA 9:10)

(Concrete)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000410810008-9

17  
17 From 33, DS 0-14-001007, Adding up to 2000, 0  
grouped people in current job force constitutes of the total  
population in 1960, present time is used.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000410810008-9"

KUKEBAYEV, M.M.; DOLGIKH, A.N.

Analysis of structural designs of earthquake-proof dwellings.  
Trudy Inst. stroi. i stroyimat. AN Kazakh SSR 2:36-50 '59.  
(MIRA 12:10)

(Earthquakes and building)

ZHUNUSOV, T.Zh., kand.tekhn.nauk; DOLGIKH, A.N., inzh.

Large reed-insulated panels made in vertical molds. Stroim. mat. 6  
no.11:13-15 N '60. (MIEA 13:11)  
(Reed (Botany)) (Precast concrete construction)

ZHUNUSOV, T.Zh.; DOLGIKH, A.N.

Reinforced concrete exterior wall slabs containing reed,  
manufactured by a vertical method for use in earthquake  
districts. Trudy Kazakh. fil. ASia no.2:64-75 '60.  
(MIRA 15:2)

(Concrete walls)  
(Kazakhstan—Earthquakes and building)

ZAIKA, V.Ye.; DOLGIKH, A.V.

A rare case of hyperparasitism of the haplosporidian Urosporidium tauricum sp. n. in the parthenitae of trematodes of the family Hemiuridae Lühe from the mollusk *Rissoa splendida* Fisch. Zool. zhur. 42 no.11:1727-1729 '63. (MIRA 17:2)

I. Sevastopol Biological Station of the Academy of Sciences of the Ukrainian S.S.R.

DOUGIKH, A.V.

*Cercaria gibbulae* nov. sp., a parasite of the mollusk *Gibbula*  
albida Gmelin of the Black Sea. Trudy SH. 17:361-363 '64.  
(MIRA 1S:6)

STRELLOV, K.K.; BESSONOV, A.F.; LOPATINSKAYA, D.I.; MARANTS, A.G.;  
DOLGIKH, A.Ye.

Determining the density of refractories. Ogneupory 30 no.6:  
1-8 '65. (MIRA 1961)

1. Vostochnyy institut ogneuporov (for Strellov, Bessonov,  
Lopatinskaya). 2. Vsesoyuznyy institut ogneuporov (for  
Marants, Dolgikh).

DOLGIKH, F. I.; KOLESOV, D. A., Engs.

Shoe Industry

Sewing of assorted styles and sizes of stock in sewing shops. Leg. From. 12  
No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December <sup>1952</sup> ~~1959~~, Uncl.

DOLGIKH, B.I.

Sewing production line conveyors with a programmed distribution  
of semifinished products. Kozh.-obuv.prom. 3 no.12:30 B '61.  
(MIRA 15:1)

(Shoe manufacture)  
(Assembly-line methods)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000410810008-9

REF ID: A6513R000410810008-9

1388-59  
(MIRA 1388)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000410810008-9"

RODOV, G.S., kand. tekhn. nauk; GOLOVACHEV, V.M., inzh.; LYUBIKER, B.M.,  
inzh.; DOLGINOV, B.N., inzh.

Mesh-reinforced roofs for large-panel buildings. Trudy Zap.-Sib.  
Fil. ASIA no.7:134-140 '62. (MIRA 18:2)

DOLGIKH, B. O.

"Rod, fratriya, plemya u narodov Severnoy Sibiri."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences  
Moscow, 3-10 Aug 64.

DOLGIKH, P.

Together with the regional economic councils. Sov.profsoiuzny 5  
no.12:41-43 0 '57. (MIRA 10:11)

1. Predsedatel' Omskogo oblastnogo soveta profsoyusov.  
(Omsk—Trade unions)

DOLGIKH, G.

PA 236T89

USSR/Physics - Semiconductivity

Ort 52

"Electric Properties of Sb<sub>2</sub>S<sub>3</sub> and Bi<sub>2</sub>S<sub>3</sub>". G. Galkin,  
G. Dolgikh and V. Yurkov

"Zbir Tekh Fiz" Vol 22, No 10, pp 1533-1539

Thermal relations of electric conductivity of samples  
Sb<sub>2</sub>S<sub>3</sub> and Bi<sub>2</sub>S<sub>3</sub> were studied. Magnitude and sign  
of temp coeff of electric conductivity of sulfides  
and thermo-emf of a metal and semiconductor paired  
essentially depend on thermal treatment of samples

236T89

and on range of temp. Results of tests are inter-  
preted within frames of zone theory of semiconductors.  
Indebted to Z. I. Kir'yashkina and L. I. Baranova.  
Received 4 Jun 52.

236T89

DOLGIKH, G. D. Cand Agr Sci -- "Watering regimen of [redacted] annual seedlings and saplings of certain varieties of trees [redacted] sierozem and meadow-swamp soils in the Uzbek SSR and [redacted] meadow soils of the Turkmen SSR." Tashkent, 1961 (State Committee of Higher and Secondary Specialized Education of the Council of Ministers UzSSR. Tashkent Agr Inst). (KL, 4-61, 204)

284  
[redacted]

ACC NR: AP6033053

SOURCE CODE: UR/0126/66/022/00270289/0292

AUTHOR: Romanova, R. N.; Buynov, N. N.; Dolgikh, G. V.; Rodionov, K. P.; Bulychev, D. K.

ORG: Institute of Metal Physics AN SSSR (Institut fiziki metallov AN SSSR)

TITLE: Electron-microscope investigation of the effect of plastic deformation on the structure of Al-Zn (20%) heat-treatable alloy

SOURCE: Fizika i metallov i metallovedeniye, v. 22, no. 2, 1966, 289-292

TOPIC TAGS: plastic deformation, aluminum-base alloy, zinc alloy, metal structure, electron microscopy, aluminum-zinc alloy, heat treatable alloy, alloy hydrostatic extrusion, alloy rolling, alloy structure / Al20Zn alloy

ABSTRACT: Small, 10 mm in diameter ingots of an aluminum-base alloy containing 20% zinc were rolled into 6 x 6 mm bars which were homogenized, solution annealed at 485°C, water quenched, and aged at 200°C for 5 hr. The structure of heat-treated bars was characterized by a Widmanstätten type network with lamellar particles of a metastable  $\alpha'$  phase. Heat-treated bars were subjected to plastic deformation with a reduction of 65% either by rolling or by hydrostatic extrusion. Under the effect of deformation, the network and most of the  $\alpha'$  phase par-

Card 1/2

WDC: 536.42

ACC NR: AP6033055

ticles disappeared; simultaneously, a small number of equiaxial and also elongated particles of a stable  $\alpha$  phase was formed in both rolled and hydrostatically extruded specimens. Additional aging at 200°C brought about no significant change in the structure of rolled specimens, except for an increase of the number of both  $\alpha$  and  $\alpha'$  particles. In the hydrostatically extruded specimens, a great number of  $\alpha$  particles and only a small number of the  $\alpha'$  particles were observed. It is concluded that in hydrostatic extrusion, a much higher number of vacancies is generated, which intensifies the aging. V. T. Shmatov is thanked for his interest in this study and discussion of the results. Orig. art. has: 5 figures.

SUB CODE: 1120 / SUBM DATE: 19Feb66 / ORIG REF: 005 / OTM REF: 003

Card 2/2

DOLGIKH, K.

PL 195T82

USSR/Radio - Clubs  
Receivers

Jul 51

"Building 150 Receivers" (in Podgorenskaya Seven-Year School), K. Dolgikh, Semiluki, Voronezh Oblast

"Radio" No 7, p 59

The 65 student group members, aided by Voronezh Dosarm Radio Club and "Elektrosignal" Plant workers built 150 crystal sets and installed them in kolkhoz homes.

195T82

DOLGIKH, K.Z.

DOLGIKH, K.Z.; KENTS, V.V. (Minsk)

Leg-toe reflex in extracranial diseases. Vrach.delo  
supplement '57:87-88 (MIR 11:3)

1. Belorusskiy nauchno-issledovatel'skiy institut nevrologii,  
neurochirurgii, i fizioterapii (nauchnyy rukovoditel'-prof. V.A.  
Markov)  
(REFLEXES)

L 23752-66 EXP(m)/EXP(w)/I/EXP(t) IJP(c) JD/JG  
ACC NR: AP6008106 SOURCE CODE: UR/0139/66/000/001/0029/0032

AUTHORS: Treskina, M. N.; Dolgikh, L. F.

ORG: Tomsk Polytechnic Institute im. S. M. Kirov  
(Tomskiy politekhnicheskiy institut)

TITLE: Microhardness and number of crystal defects of solid  
solutions of alkali halide compounds of the KCl-KBr system

SOURCE: IVUZ. Fizika, no. 1, 1966, 29-32

TOPIC TAGS: hardness, crystal defect, alkali halide, solid solution,  
potassium chloride, potassium bromide, crystal dislocation, crystal  
vacancy

ABSTRACT: The authors investigated the dependence of the microhard-  
ness (H), the dislocation density (N), the vacancy density ( $\epsilon_v$ ), and  
the lengths of the etch-figure star (rosette) prongs (L) on the com-  
position of solid solution crystals of the system KCl-KBr. The  
crystals were grown from the melt by the Kyropoulos method. The  
microhardness was measured with a PMT-3 instrument. The dislocation

Card

1/2

16

L 23752-66

ACC NR: AP6008106

density was determined by selective etching. The dependence of N on the crystal composition is a curve with two maxima pertaining to solid solutions with small additions of KCl and KBr. Crystals with lower content of KCl and KBr correspond to a larger vacancy density, to a larger deviation from additivity of the microhardness, to smaller L, and to a lower melting temperature. With decreasing binding forces in the crystal lattice of the solid solutions, and with increasing vacancy content, the distance covered by the leading dislocation under the influence of a concentrated load decreases, L decreases, and the H increases. The pure crystal components, which have a smaller vacancy density compared with the solid solutions, have longer prongs and a smaller microhardness. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 13May64/ ORIG REF: 011/ OTHER REF: 001

Card

2/20L R

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MARGULIS, V.S.; MITROV, V.I.; NIKOLAYENKO, N.O.; BOBRUSHKIN, L.G.;  
BUROV, A.I.; RYBAKOV, V.N.; SOSHIN, A.F.; TATSIYENKO, P.A.;  
TOVSTANOVSKIY, O.D.; YUROV, P.P.; Prinimali uchastiye:  
NIFAGINA, A.A.; CHERNYY, I.I.; GERSHOYG, Yu.G.; KOSTIKOV, A.G.;  
DOLGIKH, M.A.; MOVSKOVICH, S.A.; STUPIN, D.D.; NEVOYSA, G.G.

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Nifagina, Chernyy, Gershoyg, Kostikov). 2. Kamyshburunskiy  
zhelezorudnyy kombinat, Kerch' (for Bobrushkin, Burov,  
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Estimating the stability of leaching chambers in deposits of  
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circular cross section. Osn., fund. i mekh.grun. 5 no.6:16-19  
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"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000410810008-9

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9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

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VELLER, M.A.; GINZBURG, L.N.; GUSIK, S.A.; DANILOV, G.V.; DOLGIKH, M.S.; IRUZHININ, N.N.; YEFIMOV, V.S.; ZAVADSKIY, N.V.; IVASHINCHIKIN, N.V.; KARAKIN, F.F.; KUZEMAN, G.I.; LOBANOV, S.P.; MURKULOV, Ya.V.; NIKODIMOV, P.I.; PANKRATOV, N.S.; PYATAKOV, I.V.; RODICHIEV, A.P.; SMIRNOV, M.S.; STRUKOV, B.I.; SAVOCHKIN, S.M.; SAMSONOV, N.N.; SINITSYN, N.A.; SOKOLOV, A.A.; SOLODOV, S.G.; CHERLYSHEV, S.G.; SHCHEPKIN, A.Ye.

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DOLGIKH, N.

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1. Predsedatel' Kimovskogo gorodskogo soveta sportivnykh obshchestv  
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DOLGIKH, N., inzh.

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(Rock pressure) (Photoelasticity)

MUSIN, A.Ch.; DOLGIKH, N.P.

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Izv. AN Kazakh SSR, Ser. geol. no. 2:3-15 '61. (MIRA 15:2)  
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working flat ore deposits. Trudy Inst. gos. dela AN Kazakh.  
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(Mining engineering.)

FADENKO, Ye.S.; DOLGINOV, N.P.

Determining the size of interchamber ore blocks and  
pillars during the mining of contiguous deposits in  
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SSR 19,61-73 '65. (MIRA 18:12)

ACC NR: AT7002125

(A)

SOURCE CODE: UR/OCOO/66/000/000/0467/0473

AUTHOR: Dolgikh, N. P.

ORG: none

TITLE: Mine workings of the multistaged deposits at the Dzhezkazgan Mine

SOURCE: Vsesoyuznaya konferentsiya po polyarizatsionno-opticheskому методу изследovaniya napryazheniy. 5th, Leningrad, 1964. Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 467-473

TOPIC TAGS: mining engineering, stress analysis, underground facility

ABSTRACT: This paper presents results of studying the stress state in pillars, blocks of ore, and interlevel rock during multistage (multilevel) operation of the Dzhezkazgan deposit. Analyses were made of the stresses in rocks with different intervals between levels of workings and with different arrangements of pillars on successive levels. Normal and tangential stresses have been diagrammed. Results of the analyses show that, for the conditions at Dzhezkazgan, the minimal thickness of rock allowable between levels of workings is 4 m. When pillars are not symmetrically spaced in multilevel operations, the stability of the pillars declines noticeably because of the extensive development of tangential forces. Failure to

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ACC NR: AT7002125

have pillars above one another may cause large-scale destruction and collapse. Orig.  
art. has: 5 figures. (W. A. 101)

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Card 2/2

DEREVYAGIN, N.P., inzh.; GONCHARUK, K.F., inzh.; ANTONOVA, G.T.; SHCHIPINA, N.Ye., kand. tekhn. nauk; KLUEVICHKIN, K.F., kand. tekhn. nauk, otv. red.; DOLGIKH, N.S., red.; DONSAYA, G.D., tekhn. red.

[Uses of rare elements and titanium in chemical industries and analytical chemistry] Primenenie redkikh elementov i titanna v khimicheskikh proizvodstvakh i analiticheskoi khimii; obzor literature. Moskva, Otdel nauchno-tekhn. informatsii, 1962. 64 p. (Informatsiya, no.27(38))

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1. Teplokhod "Abakanles" Baltiyskogo parokhodstva.  
(Motorships)  
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(MIRA 16:11)

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CIA-RDP86-00513R000410810008-9

DOLGIKH, P.D., kandidat geologo-mineralogicheskikh nauk.

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